## (19) United States

## (12) Patent Application Publication (10) Pub. No.: US 2008/0203016 A1 Johnson et al.

(43) **Pub. Date:** 

Aug. 28, 2008

## (54) CLEANING IN MEMBRANE FILTRATION **SYSTEMS**

(75) Inventors:

Warren Thomas Johnson, New South Wales (AU); Thomas William Beck, New South Wales (AU); Rebecca Yeo, Beijing (CN)

Correspondence Address:

SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830 (US)

(73) Assignee:

SIEMENS WATER TECHNOLOGIES CORP., LOWELL, MASSACHUSETTS, MA (US)

(21) Appl. No.:

11/722,411

(22) PCT Filed:

Jan. 21, 2005

(86) PCT No.:

PCT/US05/01919

§ 371 (c)(1),

(2), (4) Date:

Jun. 21, 2007

(30)Foreign Application Priority Data

Dec. 24, 2004 (AU) ...... 2004907391

## **Publication Classification**

(51) Int. Cl. B01D 65/02

(2006.01)

(52) U.S. Cl. ...... 210/636

(57)

**ABSTRACT** 

A projectile of non-lethal composition includes an outer casing that is substantially sealed prior to impact with a target both when the projectile is in a static condition and when the projectile is in a dynamic condition. A marking material is encapsulated within the outer casing prior to impact. The outer casing is configured to deform and unseal upon impact such that the marking material disperses forward via hydraulic action.

